CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2007-____
FOR
COUNTY OF SACRAMENTO
DEPARTMENT OF WASTE MANAGEMENT AND RECYCLING
KIEFER LANDFILL, CLASS III LANDFILLS
CONSTRUCTION, OPERATION, CLOSURE,
POST-CLOSURE MAINTENANCE, AND CORRECTIVE ACTION
SACRAMENTO COUNTY

The Discharger shall maintain water quality monitoring systems that are appropriate for detection monitoring and corrective action, and that comply with Subchapter 3, Chapter 3, Subdivision 1, Division 2, Title 27, CCR, and any other applicable provisions therein.

Compliance with this Monitoring and Reporting Program, and with the companion Standard Provisions and Reporting Requirements dated April 2000, is ordered by Waste Discharge Requirements (WDRs) Order No. R5-2007-____. Failure to comply with this MRP, or with the Standard Provisions and Reporting Requirements, constitutes non-compliance with the WDRs and with Division 7 of the Water Code, which can result in the imposition of civil monetary liability.

This MRP contains the following sections:

I. MONITORING PROGRAMS
II. DETECTION MONITORING
III. CORRECTIVE ACTION MONITORING
IV. WATER QUALITY PROTECTION STANDARD
V. REPORTING

I. MONITORING PROGRAMS

A. SOLID WASTE MONITORING

The Discharger shall monitor and report all wastes discharged to each Module in Landfills 1 and 2 as follows:

Parameter	Units	Reporting Frequency
Quantity discharged	cubic yards or tons	Semi-annually
Type of material discharged	---	Semi-annually
Capacity of landfill/module remaining	percent	Annually

B. FIVE YEAR CONSTITUENTS OF CONCERN

Except as otherwise indicated in this Order, the Discharger shall monitor each media of each new and existing landfill module for applicable Constituents of Concern (per federal Subtitle D and State Water Resources Control Board Resolution 93-62). The monitoring locations, analytical methods, and frequency of analysis are as follows:

1. Monitoring Locations

a. Leachate - Sump L-1 in Landfill 1 and one LCRS sump for each module at Landfill Unit 2.

b. Unsaturated zone

i) Pore fluid - lysimeters in (or near) the unlined module M1, and underlying each Landfill Unit 2 module containing waste.
ii) Landfill gas - a representative gas probe for each module of Landfills Units 1 and 2.

c. Groundwater - a least one monitoring well screened in each location as follows:

i) Each aquifer zone in the source area near M1 (i.e., MWs 2a, 2b, and 2c).

ii) In upgradient background wells.

2. Monitoring Schedule

Each media shall be monitored for the following:

Constituents of Concern	Units	Frequency
Carbonate	mg/L	**Every 5 years**
Bicarbonate Alkalinity	mg/L	**Every 5 years**
Volatile Organic Compounds (EPA Method 8260)	ug/L	**Every 5 years**
Semi-Volatile Organic Compounds (EPA Method 8270)	ug/L	**Every 5 years**
Organochlorine Pesticide, PCBs (EPA Method 8080)	ug/L	**Every 5 years**
Chlorophenoxy Herbicides (EPA Method 8150)	ug/L	**Every 5 years**
Organophosphorus Compounds (EPA Method 8141)	ug/L	**Every 5 years**
Inorganics (dissolved)	mg/L	**Every 5 years**

The constituent-by-constituent listings for each of the above groups are included in Attachment E, a part of this Order.

C. LEACHATE MONITORING

The Discharger shall monitor leachate as required below. Upon detection of leachate in a previously dry LCRS sump, the leachate shall be sampled in accordance with the above schedule and the results included in the monitoring report. If COC constituents are detected that are not already Monitoring Parameters, then the leachate must be re-sampled for those constituents. If confirmed by re-test, then these constituents must be added to the Monitoring Parameter list and analyzed on a quarterly basis.

All visible portions of synthetic liners shall be inspected on a monthly basis. Each LCRS shall be hydraulically tested annually to demonstrate that it is still operating in conformance with the WDRs. The results shall be reported to the Board in the annual report and include comparison with earlier tests made under comparable conditions.

1. Monitoring Locations

The leachate monitoring locations shall be as follows:

Landfill	Landfill Module	Monitoring Location
1	M1	unlined
1	M1-L	Sump L-1
2	M2	Sump L-2
2	M3	Sump L-3
2	M4	Sump L-4
2	M5	Sump L-5
2	M6	Sump L-6
2	M7	Sump L-7
2	M8	Sump L-8
2	M9	Sump L-9
2	M10	Sump L-10
2	M11	Sump L-11

2. Monitoring Schedule

Leachate monitoring shall be conducted as specified:

Parameter	Units	Frequency
Field Parameters		
Flow Rate	gallons/day	Monthly
Volume	gallons	Monthly
Specific Conductance	mhos/cm	Monthly
pH	pH units	Monthly
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Quarterly
Chlorides	mg/L	Quarterly

Sulfates	mg/L	Quarterly
Volatile Organic Compounds	ug/L	Quarterly
Constituents of Concern		
Five Year COCs (Listed in Section I.B.2)	ug/L	Annually

D. WETLANDS MITIGATION AND MONITORING

The Discharger shall monitor wetlands in accordance with the Wetlands Mitigation and Monitoring Plan (WMMP), as approved by Regional Water Board staff and included in Volume II of the Final Supplemental Environmental Impact Report. Monitoring shall be conducted for a sufficient number of years to ensure that all wetlands created on-site survive for the long term, and shall be discontinued only upon revision of this MRP. The results of monitoring shall be submitted annually, by **31 August** of each year.

II. DETECTION MONITORING

A. GENERAL

The Discharger shall perform Detection Monitoring on all media potentially affected by a release, including surface water, groundwater, and the unsaturated zone. For any given monitored medium, a sufficient number of samples shall be taken from all Monitoring Points and Background Monitoring Points to satisfy the data analysis requirements for a given Reporting Period, and shall be taken in a manner that ensures sample independence to the greatest extent feasible.

The Discharger shall use a Board-approved statistical (or non-statistical) procedure to determine whether there has been a measurably significant increase in a constituent over the water quality protection standard, as set forth in Section 20415(e)(5) of Title 27.

B. UNSATURATED ZONE

Unsaturated zone monitoring devices shall be checked monthly for fluid and monitoring shall include the volume of fluid recovered. The monitoring locations, analytical methods, and frequency of analysis shall be as follows:

1. Monitoring Locations

The unsaturated zone monitoring locations, shown in Attachment D, shall be as listed:

UNSATURATED ZONE MONITORING LOCATIONS - LANDFILL 1

Module	Upgradient Suction Lysimter	Downgradient Suction Lysimeter	Gas Probe
M1-L	LYS-10U	1U, 2U, 7U, 13UN, 13 US, 14U	---
M1-L (1)	LYS-10U	VZ-1, 2, 3, 4	GP-40
M1-L (3)	LYS-10U	VZ-8, 9, 10	---

UNSATURATED ZONE MONITORING LOCATIONS - LANDFILL 2

Module	Pan Lysimeter
M2	LYS-M2
M3	LYS-M3
M4	LYS-M4
M5	LYS-M5
M6	LYS-M6
M7	LYS-M7
M8	LYS-M8
M9	LYS-M9
M10	LYS-M10
M11	LYS-M11

Pan Lysimeters for Modules M2 through M11 shall be placed under the leachate collection sump.

2. Monitoring Schedule

The analytes and frequency of unsaturated zone monitoring shall be conducted as specified:

Parameter	Units	Frequency	
Field Parameters			
Specific Conductance	mhos/cm	Semi-annually	---
pH	pH units	Semi-annually	---
Monitoring Parameters			
Total Dissolved Solids (TDS)	mg/L	Quarterly	---
Chlorides	mg/L	Quarterly	---
Sulfates	mg/L	Quarterly	---

Nitrate - Nitrogen	mg/L	Quarterly	---
Volatile Organic Compounds[1]	ug/L	Quarterly	Semi-annually
Constituents of Concern			
Five Year COCs (Listed in Section I.B.2)	ug/L	Every 5 years	Every 5 years

[1] If methane or any other VOC carrier gas is detected in the soil gas at this location during the monitoring period.

C. GROUNDWATER

The groundwater surface elevation (in feet and hundredths, M.S.L.) in all wells shall be measured on a quarterly basis and used to determine the velocity and direction of groundwater flow. This information shall be displayed on a water table contour map and/or groundwater flow net for the site and included in the semi-annual monitoring reports. Groundwater elevations taken prior to purging the well and sampling for Monitoring Parameters shall be used to fulfill the groundwater gradient/direction analyses required. For each monitored groundwater body, the Discharger shall measure the water level in each well and determine groundwater gradient and direction at least quarterly, including the times of expected highest and lowest elevations of the water level for the respective groundwater body. Groundwater elevations for all upgradient and downgradient wells for a given groundwater body shall be measured within a period of time short enough to avoid temporal variations in groundwater flow which could preclude accurate determination of groundwater gradient and direction. This information shall be included in the semi-annual monitoring reports.

1. Monitoring Locations

The groundwater detection monitoring points for Landfill Unit 1 and Landfill Unit 2, shown in Attachment C, are as follows:

LANDFILL 1

Module	Aquifer	Monitoring Method[1]	Background	Detection
M1, M1-L	Zone A	Interwell	10A	6A1, 27A, 41A1, 42A
		Intrawell[2]	12A, 17A, 27A	12A, 17A, 27A
	Zone B	Interwell	10B	5B, 6B, 15B, 21B, 22B, 23B, 40B, 42B
		Intrawell[2]	12B, 17B	12B, 17B
	Zone C	Interwell	10C	2C, 20C, Well E
		Intrawell[2]	12C	12C

[1] Refers to statistical approach used for Detection Monitoring.
[2] Each well functions as its own background well using historical monitoring data.

LANDFILL 2

Module	Aquifer	Monitoring Method [1]	Background Wells		Detection Wells	
			Existing	Proposed	Existing	Proposed
M2	Zone A	Interwell	10A		37A	37C[3]
	Zone B	Interwell	10B		37B	
	Zone C	Interwell	10C			
M3	Zone A	Interwell	10A		15A, 15B	
	Zone B	Interwell	10B		WellE	
	Zone C	Interwell	10C			
M4 thru M7	Zone A	Interwell	10A	34A, 35A[2]	15A	36A
	Zone B	Interwell	10B	34B, 35B[2]	15B	36B
	Zone C	Interwell	10C	34C, 35C[2]		36C
M10, M11	Zone A	Interwell		38A, 39A	17A	
	Zone B	Interwell		38B, 39B	17B	

[1] Refers to statistical approach used for Detection Monitoring.
[2] Background data from these wells to be pooled for Detection Monitoring purposes.
[3] This well will be constructed only if MW-37B is determined to be impacted.

2. Monitoring Schedule

The analytes and frequency of groundwater monitoring is as follows:

Parameter	Units	Frequency
Field Parameters		
pH	pH units	Semi-annually
Specific Conductance	mhos/cm	Semi-annually
Temperature	Degrees F	Semi-annually
Turbidity	Turbidity units	Semi-annually
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Semi-annually
Chlorides	mg/L	Semi-annually
Sulfates	mg/L	Semi-annually
Nitrate - Nitrogen	mg/L	Semi-annually
Volatile Organic Compounds	ug/L	Semi-annually
Constituents of Concern		

Five Year COCs (Listed in Section I.B.2)	ug/L	Every 5 years

D. SURFACE WATER MONITORING

1. Monitoring Locations

Surface water samples shall be collected from Deer Creek at upstream location RSW-001 (background), and downstream location RSW-003 (point of compliance), as shown on Attachment B.

2. Monitoring Schedule

Surface water monitoring shall be conducted as specified below. Sampling shall begin with the first surface runoff in the fall of each year and continue quarterly until surface runoff ceases in the dry season. Sampling shall also be conducted after any major storm events that cause the main sedimentation basin to discharge to Deer Creek.

Parameter	Units	Frequency
Field Parameters		
Dissolved Oxygen	mg/L	Quarterly
Hardness (as $CaC0_3$)	mg/L	Quarterly
pH	pH units	Quarterly
Specific Conductance	mhos/cm	Quarterly
Turbidity	Turbidity Units	Quarterly
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Quarterly
Bicarbonate	mg/L	Quarterly
Chlorides	mg/L	Quarterly
Sulfates	mg/L	Quarterly
Nitrate - Nitrogen	mg/L	Quarterly
Constituents of Concern		
Carbonate	mg/L	Annually
Chemical Oxygen Demand (COD)	mg/L	Annually
Total Organic Carbon (TOC)	mg/L	Annually
Five Year COCs (Listed in Section I.B.2)	ug/L	Every 5 years

The Discharger shall determine at each sampling whether there is a statistically significant increase over water quality protection standards for each parameter and constituent analyzed. If a release is detected at the downstream sampling point, the

Discharger shall proceed with an Evaluation Monitoring Program to determine the source(s) and extent of the release.

III. CORRECTIVE ACTION MONITORING

A. GROUNDWATER EXTRACTION

The groundwater extraction well network, shown in Attachment C, is as follows:

Module	Aquifer	Extraction Wells
M1, M1-L	Zone A	EW-1 through EW-14
	Zone B	none
	Zone C	none

The following information shall be gathered annually as to the progress of groundwater remediation and reported in the format below:

	Mass of Total VOCs (lbs)			
Aquifer Zone	Original Amount In Place	Amount Removed During Year	Cumulative Amount Removed	Amount Left In Place
A				
B				
C				

The information shall be included in the Annual Monitoring Report and/or the monitoring report for the second half of each year per the monitoring program.

B. CORRECTIVE ACTION MONITORING

1. Monitoring Locations

The corrective action monitoring points for Landfill Unit 1 (including M1 and M1-L), shown in Attachment C, are as follows:

Aquifer	Source Area	Downgradient Wells
Zone A[1]	Landfill 1, M1	1A, 2A, 2A1, 3A, 4A, 5A, 6A, 7AR, 9A, 11A, 15A, 16A, 18A, 19A, 20A, 21A, 22A, 23A, 24A, 28A, 29A, 30A, 40A, 41A2
Zone B[1]	Landfill 1, M1	1B, 2B, 4B, 7B, 9B, 11B, 16B, 20B, 41B

[1] List includes former detection monitoring wells impacted by the spread of contaminants.

2. Monitoring Schedule

The monitoring schedule for the corrective action wells is as follows:

Parameter	Units	Frequency
Field Parameters		
pH	pH units	Semi-annually
Specific Conductance	mhos/cm	Semi-annually
Temperature	Degrees F	Semi-annually
Turbidity	Turbidity units	Semi-annually
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Semi-annually
Chlorides	mg/L	Semi-annually
Sulfates	mg/L	Semi-annually
Nitrate - Nitrogen	mg/L	Semi-annually
Volatile Organic Compounds	ug/L	Semi-annually
Constituents of Concern		
Five Year COCs (Listed in Section I.B.2)	ug/L	Annually

IV. WATER QUALITY PROTECTION STANDARD

The Water Quality Protection Standard (Standard) consists of the following elements:

A. Constituents of Concern;
B. Concentration Limits;
C. Monitoring Points;
D. Points of Compliance; and
E. Compliance Period.

Each of these is described as follows:

A. Constituents of Concern

The Constituents of Concern (COCs) required under Section 20395 of Title 27 shall include all constituent groups identified in Section I.B.2 and specifically listed in Attachment E, a part of this Order. The Discharger shall monitor all COCs every five years or more frequently as required under the corrective action monitoring program.

B. Concentration Limits

1. General

The Concentration Limit for any given Constituent of Concern or Monitoring Parameter in a given monitored medium (i.e., the uppermost aquifer) at a landfill shall be as follows, and shall be used as the basis of comparison with data from the Monitoring Points in that monitored medium:

a. The background value established in the WDRs by the Board for that constituent and medium;

b. The constituent's background value, established anew during each Reporting Period using only data from all samples collected during that Reporting Period from the Background Monitoring Points for that monitored medium. Either:

(1) The mean (or median, as appropriate) and standard deviation (or other measure of central tendency, as appropriate) of the constituent's background data; or

(2) The constituent's MDL, in cases where less than 10 percent of the background samples exceed the constituent's MDL; or

c. A concentration limit greater than background, as approved by the Board for use during or after corrective action.

2. Unsaturated Zone - background values established by monitoring

3. Groundwater - background values established by monitoring

4. Surface Water - Concentration limits for RSW-001 shall be the upper tolerance limits calculated for this background monitoring point.

These values, and the statistical methods upon which they are based, are subject to ongoing review and approval by Board staff. In addition, they shall be updated as necessary to provide ongoing definition of background water quality.

C. Monitoring Points

1. Unsaturated Zone - As listed in Section II. B.1 for Landfill Units 1 and 2, respectively.

2. Groundwater - As listed in Section II.C.1 for Landfill Units 1 and 2, respectively.

3. Surface Water - As described in Section II.D.

Upon confirmation of an exceedance from an existing release, the Discharger shall transfer the impacted monitoring point(s) from the Detection Monitoring Program (DMP) to

the Corrective Action Monitoring Program (CAMP). Upon confirmation that levels in a previously impacted monitoring point has been reduced below concentration limits, the Discharger may, with Board staff approval, transfer that monitoring point from the CAMP to the DMP.

D. Points of Compliance

The point(s) of compliance at each groundwater monitoring point is the vertical surface located at the downgradient limit of the WMU that extends through the uppermost aquifer underlying the WMU. These points correspond to the corrective action wells on the southern and southwestern periphery of the landfill along Kiefer Road. The point of compliance for surface water monitoring shall be RSW-003.

E. Compliance Period

The Compliance Period is the number of years equal to the active life of the landfill plus the closure period. Each time the Standard is exceeded (i.e., a release is discovered), the landfill begins a Compliance Period on the date the Board directs the Discharger to begin an Evaluation Monitoring Program. If the Discharger's Corrective Action Program has not achieved compliance with the Standard by the scheduled end of the Compliance Period, the Compliance Period is automatically extended until the landfill has been in continuous compliance for at least three consecutive years.

V. REPORTING

The Discharger shall report monitoring data and information as required in this Monitoring and Reporting Program and as required in the Standard Provisions and Reporting Requirements. Reports which do not comply with the required format will be rejected and the Discharger shall be deemed to be in noncompliance with the WDRs.

A narrative discussion of the monitoring results, including notations of any water quality violations shall precede tabular summaries of the water quality data. Further, each monitoring report shall include a summary and certification of completion of all Standard Observations for the waste management unit (WMU), for the perimeter of the WMU, and for the receiving waters. The standard observations shall be performed on a weekly basis and shall include those elements as defined in the Standard Provisions and Reporting Requirements.

In reporting the monitoring data required by this program, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. The data shall be summarized in such a manner so as to illustrate clearly the compliance with waste discharge requirements or the lack thereof. Historical and current monitoring data shall be graphed at least once annually. Graphs for the same constituent shall be plotted at the same scale to facilitate visual comparison of monitoring data.

The results of any monitoring done more frequently than required at the locations specified herein shall be reported to the Board in the monitoring report(s) for that period.

A. REQUIRED REPORTS

1. Detection Monitoring Report

Detection Monitoring Reports (DMRs) shall be prepared and submitted to the Board semi-annually by **31 July** and **31 January** following the end of each calendar semester. The semi-annual report due by 31 January may be included as part of the Annual Report specified in I.A.2, below. The reports shall include the results of all monitoring programs listed herein.

2. Annual Report

An Annual Report which summarizes the monitoring results for the prior four quarters shall be submitted to the Board by **31 January** each year. The Discharger shall submit the Annual Report as specified in the Standard Provisions and Reporting Requirements. The report shall contain both tabular and graphical summaries of the detection and corrective action monitoring data and a discussion of the progress toward re-establishment of compliance with WDRs and the Water Quality Protection Standard (WQPS). In reporting the progress of corrective action, the report shall include contaminant contour maps for representative volatile organic compounds and inorganic constituents and compare the current plumes with those prior to the start of corrective action. The report shall also include calculations of the amounts of contaminant removed, as listed in Section III.A. In lieu of submitting a separate report, the Annual Report information may instead be included with the second semester Detection Monitoring Report. The Annual Report shall also include the results of the soil gas monitoring program.

3. Wetlands Mitigation and Monitoring

The results of monitoring conducted pursuant to the Wetlands Mitigation and Monitoring Plan (WMMP), as approved by Board staff, shall be submitted **annually by 31 August** of each year. In addition to reporting the monitoring results, the report shall include maps showing impacted areas, narrative descriptions, and summaries of mitigation and preservation activities.

4. Water Quality Protection Standard Report

As noted above, any changes to the water quality protection standard are to be included in the Annual Report.

5. Constituents-of-Concern (COC)

The results of COC monitoring shall be submitted with, or reported in, the Annual Report for that year.

6. Notification of Release and Re-test

For any WMU, if the results of a detection monitoring program shows that there is a measurably significant increase in an indicator parameter or waste constituents over the WQPS at or beyond the points of compliance (i.e., measurably significant evidence of an exceedance or release), the Discharger shall:

a. immediately notify the Regional Water Board by telephone or fax of the exceedance,

b. within seven days of the initial findings, follow up with written notification (or acknowledgment of the Board's finding),

c. within 30 days of the initial finding, re-sample for the constituent(s) or parameter(s) at the point where the standard was exceeded, and

d. within 60 days of the initial finding, submit the results of the re-sampling and statistical analysis, indicating whether or not an exceedance or release was confirmed by the re-test.

7. Existing Release - Amended Programs

Within 30 days upon confirmation of an exceedance from an existing release, the Discharger shall submit for Board staff approval an amendment to the Corrective Action Program, describing measures planned or taken to mitigate the exceedance. The Discharger shall also note any necessary changes to the DMP and Corrective Action Monitoring Program monitoring locations as a result of the exceedance (see Section IV.C, above).

8. Responding to a Release Discovery

Upon verifying a measurably significant evidence of a release from a WMU according to Section 20420(j) of Title 27 and Section V.A.6 of this MRP, above, shall **immediately** implement the requirements of **XI. Response To A Release, C. Release Has Been Verified**, contained in the Standard Provisions and Reporting Requirements.

B. REPORTING REQUIREMENTS

1. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records, all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained throughout the life of the facility including the postclosure period.

   Such legible records shall show the following for each sample:

   a. Sample identification and the monitoring point or background monitoring point from which it was taken, along with the identity of the individual who obtained the sample;

   b. Date, time, and manner of sampling;

c. Date and time that analyses were started and completed, and the name of the personnel and laboratory performing each analysis;

d. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used;

e. Calculation of results; and

f. Results of analyses, and the MDL and PQL for each analysis.

2. A transmittal letter explaining the essential points shall accompany each report. At a minimum, the transmittal letter shall identify any violations found since the last report was submitted, and if the violations were corrected. If no violations have occurred since the last submittal, this shall be stated in the transmittal letter. The transmittal letter shall also state that a discussion of any violations found since the last report was submitted, and a description of the actions taken or planned for correcting those violations, including any references to previously submitted time schedules, is contained in the accompanying report.

3. Each monitoring report shall include a compliance evaluation summary. The summary shall contain at least:

   a. For each monitoring point and background monitoring point addressed by the report, a description of:

      1) The time of water level measurement;

      2) The type of pump - or other device - used for purging and the elevation of the pump intake relative to the elevation of the screened interval;

      3) The method of purging (the pumping rate; the equipment and methods used to monitor field pH, temperature, and conductivity during purging; the calibration of the field equipment; results of the pH, temperature, conductivity, and turbidity testing; and the method of disposing of the purge water) to remove all portions of the water that was in the well bore while the sample was being taken;

      4) The type of pump - or other device - used for sampling, if different than the pump or device used for purging; and

      5) A statement that the sampling procedure was conducted in accordance with the approved Sampling and Analysis Plan.

   b. A map or aerial photograph showing the locations of observation stations, monitoring points, and background monitoring points.

c. For each groundwater body, a description and graphical presentation of the gradient and direction of groundwater flow under/around the Unit, and the groundwater flow rate, based upon water level elevations taken prior to the collection of the water quality data submitted in the report.

d. Laboratory statements of results of all analyses evaluating compliance with requirements.

e. An evaluation of the effectiveness of the leachate monitoring and control facilities, and of the run-off/run-on control facilities.

f. A summary and certification of completion of all **Standard Observations** for the Unit(s), for the perimeter of the Unit, and for the receiving waters. Standard observations for ACTIVE landfill units shall be conducted **weekly** during the wet season (1 October to 30 April) and **monthly** during the dry season (1 May to 30 September). Standard observations for INACTIVE or CLOSED landfill units shall be conducted **monthly** during the wet season (1 October to 30 April) and **quarterly** during the dry season (1 May to 30 September). Standard The Standard Observations shall include:

1) For the Unit:

a) Evidence of ponded water at any point on the facility (show affected area on map);

b) Evidence of odors - presence or absence, characterization, source, and distance of travel from source; and

c) Evidence of erosion and/or of day-lighted refuse.

2) Along the perimeter of the Unit:

a) Evidence of liquid leaving or entering the Unit, estimated size of affected area, and flow rate (show affected area on map);

b) Evidence of odors - presence or absence, characterization, source, and distance of travel from source; and

c) Evidence of erosion and/or of day-lighted refuse.

3) For receiving waters:

a) Floating and suspended materials of waste origin - presence or absence, source, and size of affected area;

b) Discoloration and turbidity - description of color, source, and size of affected area;

c) Evidence of odors - presence or absence, characterization, source, and distance of travel from source;

d) Evidence of water uses - presence of water-associated wildlife;

e) Flow rate; and

f) Weather conditions - wind direction and estimated velocity, total precipitation during recent days and on the day of observation.

g. The quantity and types of wastes discharged and the locations in the Unit where waste has been placed since submittal of the last such report.

4. The Discharger shall report by telephone any seepage from the disposal area **immediately** after it is discovered. A written report shall be filed with the Regional Water Board **within seven days**, containing at least the following information:

   a. A map showing the location(s) of seepage;

   b. An estimate of the flow rate;

   c. A description of the nature of the discharge (e.g., all pertinent observations and analyses);

   d. Verification that samples have been submitted for analyses of the Monitoring Parameters and Constituents of Concern listed in Section I.C.2, and an estimated date that the results will be submitted to the Regional Water Board; and

   e. Corrective measures underway or proposed, and corresponding time schedule.

5. The Discharger shall submit an **Annual Monitoring Summary Report** to the Regional Water Board covering the reporting period of the previous monitoring year. This report shall contain:

   a. All monitoring parameters and constituents of concern shall be graphed so as to show historical trends at each monitoring point and background monitoring point, for all samples taken within at least the previous five calendar years. Each such graph shall plot the concentration of one or more constituents for the period of record for a given monitoring point or background monitoring point, at a scale appropriate to show trends or variations in water quality. The graphs shall plot each datum, rather than plotting mean values. For any given constituent or parameter, the scale for background plots shall be the same as that used to plot

downgradient data. Graphical analysis of monitoring data may be used to provide significant evidence of a release.

b. All historical monitoring data, including data for the previous year, shall be submitted in tabular form as well as in a digital file format. The Regional Water Board regards the submittal of data in hard copy and in digital format as "...the form necessary for..." statistical analysis [Title 27 CCR Section 20420(h)], in that this facilitates periodic review by the Regional Water Board.

c. A comprehensive discussion of the compliance record, and the result of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements.

d. A map showing the area and elevations in which filling has been completed during the previous calendar year and a comparison to final closure design contours.

e. A written summary of the monitoring results, indicating any changes made or observed since the previous annual report.

f. An evaluation of the effectiveness of the leachate monitoring/control facilities including the results of the annual testing of leachate collection and removal systems required under VIII.P of the Standard Provisions and Reporting Requirements.

The Discharger shall implement the above monitoring program on the effective date of this Program.

Ordered by:_____
PAMELA C. CREEDON, Executive Officer

_____
(Date)

WLB: 5/21/2007